

Claims

We claim:

1. A miter saw comprising:

a base;

5 a table rotatably disposed on the base;

a support housing connected to the table;

first and second rails slidably connected to the support housing;

a trunnion disposed on the first and second rails;

a saw assembly pivotally attached to the trunnion and movable between a front

10 position and a rear position, the saw assembly comprising a motor and a blade driven by the motor;

a first bearing disposed underneath the first rail; and

second and third bearings disposed on the first rail between the support housing and the first rail,

15 wherein one of the first, second and third bearings is biased into contact with the first rail by a first screw, and another of the first, second and third bearings being biased into locking contact with the first rail by a second screw.

2. The miter saw of Claim 1, wherein the first bearing has at least one channel substantially perpendicular to a longitudinal axis of the first rail.

20 3. The miter saw of Claim 1, wherein the first and second rails have different hardness.

4. The miter saw of Claim 1, wherein the first bearing is disposed on a boss within the support housing.

5. The miter saw of Claim 4, wherein the boss is machined when the support housing is bored.

6. The miter saw of Claim 1, further comprising a fourth bearing disposed underneath the first rail.

5 7. The miter saw of Claim 6, wherein the fourth bearing is disposed on a boss within the support housing.

8. The miter saw of Claim 7, wherein the boss is machined when the support housing is bored.

9. The miter saw of Claim 1, wherein the first rail is softer than the second rail.

10 10. The miter saw of Claim 1, further comprising a fifth bearing disposed within the support housing, said fifth bearing contacting the second rail.

11. The miter saw of Claim 10, wherein the fifth bearing is a recirculating linear bearing.

12. The miter saw of Claim 10, wherein the fifth bearing is a recirculating linear
15 ball bearing.

13. The miter saw of Claim 1, wherein at least one of the first, second and third bearings is made of powdered metal bronze.

14. The miter saw of Claim 1, wherein a plane intersects the first, second and third bearings.

20 15. The miter saw of Claim 14, wherein the plane is substantially vertical.

16. The miter saw of Claim 14, wherein the plane is substantially horizontal.